The field of the invention relates to a satellite structure wherein the radio-frequency antenna acts as a radio lens with respect to a radio-frequency transmitting or receiving horn which is located at the nadir of the antenna and at distance from it (page 1, lines 13-16 of the specification).

Both in reception and transmission, the function of the antenna is to divert and focus the RF signals that it receives, onto the horn or towards the earth. The invention thus concerns the satellite structures having focusing means (RF antenna) spaced from the illumination means (transmitting and/or receiving horn). The advantage of such structures is that they allow high tolerance to deformations of the antenna. In the prior art, including that cited by the Examiner, the illumination and the focalization functions are usually borne on the same satellite, for example with the horn being positioned at the end of a mast.

The contribution of the claimed invention is a system wherein the illuminating means (for emitting and/or receiving) are borne by a satellite different from the satellite which directs and focalizes the RF signals. It is a major contribution of the invention to to split these two functions and to have one (the illuminating means) borne on one satellite while the other (the RF antenna with phase shifting and/or delaying means) is borne on another satellite. The system according to the invention is particularly advantageous for very large antennas.

Houston (US 6,272,317) et al. concerns a satellite based communication network which has the flexibility to tailor the beam patterns according to user needs. The Houston network provides precise fixed coverage over high traffic area while allowing scanned beams to be moved between areas not requiring a dedicated fixed beam. Houston et al, thus deals with beam configurations that accommodate variations in traffic.

The network of the Houston reference includes a plurality of classical satellites, each having an uplink antenna and a downlink antenna for receiving and transmitting beams. These antennas each have a multiyear array and a reflector, each reflector being populated with horns (see column 4, lines 1-10 and lines 39-54; column 5, lines 32-39). Each of these antennas thus

integrates both the focusing and the illumination means. Thus, Houston et al. does not concern a satellite structure having focusing means spaced from the illumination means.

In Houston, an inter-satellite link is included in the network design (see figure 4; column 5, lines 55-64) in order for signals emitted by a first satellite to be received by a second satellite. This inter-satellite link is a link classically used in satellite communication which in no way implements an antenna acting as that of the present invention, namely, as a prism for diverting signals emitted from illumination means located on a satellite separate from the one bearing the antenna (respectively for diverting signals emitted from earth) to send them back to earth (respectively to the illumination means), signals not being centralized in the antenna.

Thus, Houston et al. does not anticipate the contribution of the invention for the arrangement of the illumination means and the focusing means on two different satellites. Accordingly, the rejected claims are believed to be allowable

In view of the above, each of the claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue.

Applicant believes no fee is due with this request. However, if a fee is due, please charge our Deposit Account No. 22-0185, under Order No. 20061-00093-US from which the undersigned is authorized to draw.

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Respectfully submitted,

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